

Section 6-6: Trapezoids and Kites

By the end of this lesson, you should be able to answer:

- How do you apply properties of trapezoids?
- How do you apply properties of kites?

Vocabulary:

1. Trapezoid

2. Bases

3. Legs of a Trapezoid

4. Base Angles

5. Isosceles Trapezoid

6. Midsegment of a Trapezoid

7. Kite

Theorems:

Isosceles Trapezoid

6.21:

6.22:

6.23:

6.24 - Trapezoid Midsegment Theorem:

Kites

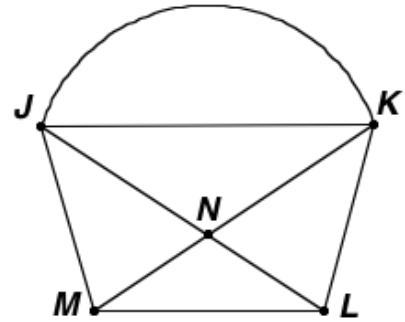
6.25:

6.26:

Example 1: Each side of a basket is an isosceles trapezoid. If $m\angle JML = 130^\circ$, $KN = 6.7$ ft, and $LN = 3.6$ ft, find each measure.

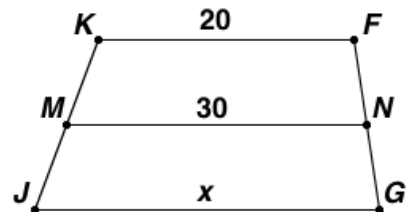
a. $m\angle MJK$

b. JL

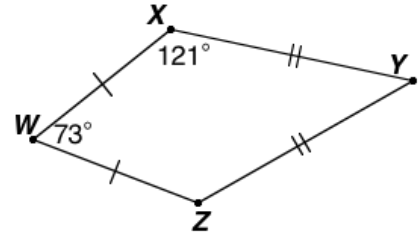


Example 2: Quadrilateral $ABCD$ has vertices $A(5, 1)$, $B(-3, -1)$, $C(-2, 3)$, and $D(2, 4)$. Show that $ABCD$ is a trapezoid and determine whether it is an isosceles trapezoid (Hint: Make a sketch).

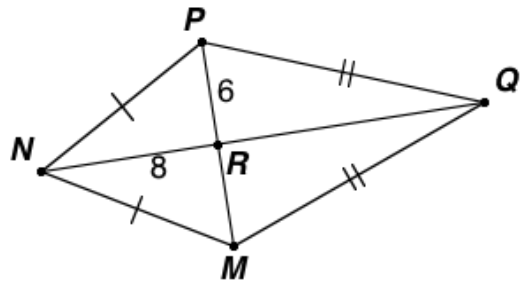
Example 3: In the figure, \overline{MN} is the midsegment of trapezoid $FGJK$. What is the value of x ?



Example 4: If $WXYZ$ is a kite, find $m\angle XYZ$.



Example 5: If $MNPQ$ is a kite, find NP .



Problem Set:

"Do what you love, love what you do, leave the world a better place and don't pick your nose." - Jeff Mallett